

A position paper is a careful, unemotional screening of the facts in a controversy. It is not written for imaginative phrasing. It states what is true, i.e., gives a position which a company or industry is willing to defend.

It is a continuing document.

It will be constantly revised, refreshed and strengthened as our Study Group adds new materials and new viewpoints.

Until each revision has been cleared with the Institute, the previous and approved version will be the matrix for our program.

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The past five years have produced four major anti-smoking reports on cigarettes and human health.

These reports have generated a tremendous amount of publicity.

As a result, cigarette smoking stands accused of causing almost every ailment that affects the body--short of a broken heart.

Sensational reports with implications for the habits of tens of millions of people make widely-discussed headlines. Yet the flaws in such findings/ do not make news/ are seldom mentioned

Inconsistencies in the reports--and the scientific results differing with their conclusions--all too often are overlooked.

A "CAUSAL" LINK?

1. In 1962, "Smoking and Health," a report by Britain's College of Physicians, relied almost entirely on "guilt by statistical association" in linking cigarettes with disease.
2. In 1964, a report to the U.S. Surgeon General (also called "Smoking and Health") said that statistics alone cannot prove a cause-and-effect relationship. But it proceeded to make just such a statistical case.

Indeed, after specifically saying that the word "cause" was not used "in an absolute sense," the Surgeon General's Advisory Committee, the group that prepared the report, concluded that cigarette smoking was "causally related" to lung cancer.

In 1967, a U.S. Public Health Service study ("Cigarette Smoking and Health Characteristics") found a statistical association between smoking and some diseases, but admitted that such associations did not prove cause and effect.

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4. In 1967, another report ("The Health Consequences of Smoking") was prepared for the Surgeon General by the National Clearinghouse for Smoking and Health, an anti-cigarette group. While not claiming that statistical associations prove a causal link with smoking, the report relying almost solely on statistics broadened the "conclusions" of the 1964 report.

Is there any evidence to back up statistics in the anti-smoking reports?

The experimental and clinical evidence is also wholly inadequate, as will be illustrated later in this paper.

THE ART OF MAKING "ASSUMPTIONS"

Despite all the headlines, medicine's knowledge about cancer actually is terribly skimpy. Indeed, the true causes of the disease may be factors that medical science has not even thought of.

Consider:

1. Swamp air was long assumed to be the cause of malaria. The word itself means "bad air" and more people living near swamps died of this fever than anyone else. But today it is known that malaria is transmitted by mosquitoes--not night air.

Thus "guilt by statistical association" was wrong.

2. In certain regions of Brazil, an ailment known as Chagas' disease appeared linked with an unexpectedly large amount of goiter. Medicine, in fact, long assumed that it caused goiter. But subsequent research showed a deficiency in iodine in these regions. Lack of iodine causes goiter, not Chagas' disease.

Again, "guilt by association" was wrong.

3. It was once widely assumed that milk-drinking caused cancer. People living in the U.S. and Switzerland, where much milk is drunk, suffered from it. People living in India and Japan, where little milk is consumed, did not. However, cancer is a disease that generally strikes in middle life or later. Research

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showed people living in India and Japan simply didn't live long enough for the disease to develop.

Again, "guilt by association" was wrong.

4. Years ago, it was assumed that eating corn caused pellagra because of the high incidence of the disease among people who ate an unusually large amount of corn. Later, though, it was found that faulty diet, not corn, caused pellagra.

Again, "guilt by association" was wrong.

5. It was long believed that eating too much sugar caused diabetes. Reason: The figures showed that people who died of diabetes had too much sugar in their blood. Yet today, medical science has proved that too much sugar in the blood is a symptom--not a cause--of diabetes.

Once again, "guilt by association" was wrong.

One would suspect a lesson might have been learned about hasty conclusions. Statistics, even good statistics, cannot prove a cause and effect relationship. Still, the entire cigarette controversy, incredibly enough, rests on just such flimsy assumptions.

FIVE BASIC FALLACIES IN THE STATISTICAL CASE AGAINST SMOKING

1. The argument is spread too thin.

- a. In the cigarette controversy, an attempt is made to link smoking with more than two dozen diseases--including ulcers, heart disease, cirrhosis of the liver, and cancer of the liver and prostate.

- b. Even the Surgeon General's 1964 report itself admitted that this has raised serious problems. Several experts, the report said, have pointed out that such a wide variety of diseases detracts from the thrust of the case for any one disease.

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2. Non-smokers get these same diseases.

- a. People who do not smoke suffer from all the diseases which have been linked with smoking.
- b. Cancer in a non-smoker is absolutely indistinguishable from cancer in a smoker.
- c. Smoking, therefore, cannot be an essential cause, nor can it be called the cause, of any disease.
- d. No ingredient as found in smoke has been proved harmful to human beings.
- e. No mechanism has been found to explain how smoking can cause any disease.

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3. The actual rate of lung cancer may not be increasing at all.

- a. Some authorities cast doubt on the reportedly big increase in the incidence of lung cancer during recent decades.
- b. They suggest that improved diagnosis has distorted the actual trend. In the years before X-rays, fluoroscopes and bronchoscopes, lung cancer was often called "consumption," "tuberculosis," "respiratory disease," or "pneumonia."
- c. Over the years, as the number of deaths diagnosed as lung cancer has increased, deaths from other respiratory conditions have decreased in about the same proportion.
- d. Reports from hospitals in New Orleans and Detroit have indicated that the number of lung cancer cases has remained unchanged over a considerable number of years, while smoking has increased.
- e. Some experts question the "cause of death" explanation that doctors write on death certificates. One recent study indicated, for instance, that many

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cancers first diagnosed as originating in the lung turned out, after autopsies, to be secondary to primary cancers in other parts of the body.

4. In any event, the increase has not paralleled the rise in smoking.

- a. Detailed autopsy work in Europe revealed increases in lung cancer rates prior to 1900--long before cigarette smoking became popular.
- b. Distinguished scientists report that the incidence of lung cancer has not increased nearly so much as smoking has.
- c. The rate of increase appears to be leveling off. >

5. Surveying methods are often questionable.

- a. Any study, especially one used to buttress a theory, is only as strong as the data upon which it is built.
- b. The more unsound the data collected, the more questionable the theory.
- c. Here are only three of many examples:
 - (1) The Surgeon General's Advisory Committee admitted in its 1964 report that "none of the ((survey samples)) was designed, in particular, to be representative of the U.S. male population." This means that it is impossible to determine whether the people in this sample were like people in the U.S. as a whole.
 - (2) In a widely quoted study by the American Cancer Society, volunteer workers contacted friends. Their only instructions were to profile families with one individual over 45 years of age. This is a far cry from what statisticians would call a scientific random sample.

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E.J. Cantor

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- (3) An early study on the effects of inhalation turned up no difference in death rates between smokers who inhaled and those who did not. Many subsequent surveys failed to include any questions whatsoever on whether people inhaled.

UNSOLVED PUZZLES IN THE CASE AGAINST SMOKING

WHY DOESN'T LUNG CANCER OCCUR EARLIER IN SMOKERS?

If smoking is a cause of lung cancer, one would expect the amount and duration of smoking to have some effect on when the disease occurs.

But this is not the case.

1. The number of lung cancer cases appears to "peak" when people are about age 60, thereafter drops off. This is true regardless of whether, how much, or how long a person has smoked.
2. Heavy smokers get the disease at the same average age as non-smokers.
3. People start smoking earlier and more heavily with each succeeding generation. But cases occur, if anything, at later ages. They should occur earlier, if smoking is the cause.
4. Such patterns do not conform to any known "dose-response" concept.

WHY IS THERE A "GAP" BETWEEN MEN AND WOMEN?

Forty years ago, relatively few women smoked cigarettes. Today, many of them do. If smoking causes cancer, one would expect that as more women have taken up cigarettes their lung cancer rate would approach that of men.

But this is not the case.

1. While the proportion of female to male smokers has increased sharply in recent decades, the proportion of female to male lung cancer deaths has actually dropped.

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2. There seems to be absolutely no difference in male and female lung tissue to account for this.
3. There has been no explanation for this.

Note:

Many anti-smoking theorists contend that smoking causes a type of lung cancer with cells that resemble human skin. They claim, too, that reported increases in lung cancer have been of this type.

However, recent studies show that in many parts of the U.S. the increases appear to be of an entirely different type of lung cancer, which has not been generally associated with smoking at all.

MORE PUZZLING CONTRADICTIONS

1. Geographical studies of disease show some sharp differences that cannot be explained by differences in smoking habits:
 - a. Although people in Great Britain smoke half as much as Americans do, the incidence of lung cancer in Britain is twice as high.
 - b. Cigarette consumption in the Netherlands is slightly lower than in the U.S., yet lung cancer death rates are about one-third higher than in the U.S.
 - c. Australians consume as much tobacco as British smokers do, yet have about one half the incidence of lung cancer.
 - d. Japan and Britain have about the same cigarette consumption, but death rates from lung and bronchial cancer are about 5 times higher in Britain.
 - e. Norway and Finland have about the same cigarette consumption rates, but death rates from lung and bronchial cancer are less than half as high in Norway.

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2. The 1964 Surgeon General's report turned up the finding that the death rate for men who smoked a pack or more of cigarettes a day was slightly lower than the average death rate for all U.S. males.
3. Many doctors and government officials--including the Surgeon General himself--have suggested that if one must smoke, "cigars and pipes are safer than cigarettes."
 - a. It is difficult to reconcile this official position with the fact, as recognized by the 1964 report, that there are more so-called "cancer producing" agents in pipe and cigar smoke than in cigarette smoke. (These agents are substances which have produced tumors under certain conditions in animal experiments.)
 - b. There is four times as much benzpyrene, for example, in cigar smoke, nearly ten times as much in pipe smoke.
4. The 1964 report also indicated that death rates for former pipe smokers were higher than they were for smokers.
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Thus, it would appear safer to smoke a pipe than stop.
5. The national health survey of 1967 ("Cigarette Smoking and Health Characteristics") showed that for most of the health characteristics measured, ex-smokers had a poorer record than either smokers or non-smokers. And light smokers (less than 11 cigarettes a day) had a better record in most categories than non-smokers.

If such statistics are to be believed, if one smokes, he'd better not stop, and if he doesn't smoke, perhaps he'd better light up.
6. Another recent study indicates greater frequency of heart attacks among non-smokers than among people who once smoked and stopped.
7. The 1964 Surgeon General's report showed that smokers between the ages of 80 and 89 years old had a 40 per cent lower death rate than non-smokers of the same age.

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8. An important British study indicated that proportionately more smokers without lung cancer inhaled their cigarettes than did those who subsequently got the disease.

This led Sir Ronald Fisher, "the Father of Statistics," to comment: "Not only have they discovered the cause of lung cancer (cigarettes), they have also discovered the means of its prevention (inhaling cigarette smoke)."

9. One study showed that women smokers had significantly fewer heart conditions and cases of hypertension than those who did not smoke.
10. Another study found that nursery death rates of babies born to mothers who do not smoke are twice as high as those of smoking mothers.

These are just some of the flaws and puzzles in the statistical case against smoking. Now let's take a look at some of the experimental and clinical evidence.

MICE VS. MEN. . .

Or, the Use of the Wrong Material, in the Wrong Form, in the Wrong Concentration, under the Wrong Circumstances, on the Wrong Animal.

Malignant tumors produced by painting cigarette "tar" (smoke condensate) on the skin of mice have been singled out as an indication that smoke produces cancer.

Yet even the staunchest smoking critics admit that just because something produces cancer on the skin of mice doesn't mean it does so in the human body.

1. The dose of "tar" used in many of these "mouse experiments" is the equivalent of smoking as many as 100,000 cigarettes a day.
2. Laboratory experiments show that cancer can be produced in mice by a host of innocuous substances, such as sugar, tea, tomato juice, salt and distilled water.

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3. Painting "tar" on animals has shown conflicting results at different times. Sometimes it produces cancer; sometimes it does not--even in the same tissue of the same animals.
4. Making animals inhale cigarette smoke in the laboratory has never produced human-type lung cancer. All such experiments have failed.
5. Malignant human-type tumors in the lung have been produced by making mice inhale synthesized smog after exposure to virus.
6. Malignant tumors have also been produced in the lungs of mice by feeding hard-boiled eggs to mice in laboratory experiments.

EXPOSURE TO SMOKE

Cigarette smoking has increased enormously. If smoking causes cancer, then one would expect that the disease would increase proportionately in all areas of the body with which smoke comes in contact.

But this is not the case.

1. There has been no enormous increase in cancer of the mouth, nose, larynx, or other parts of the respiratory tract. Cancer of the tongue and lip actually decreased over a recent 10-year period.
2. Cancer of the windpipe (trachea), where concentration of smoke is heaviest, is a medical rarity. This is true even though tissue in the windpipe is identical to that in the lung.
3. Until recent years, researchers thought that most lung cancer originated in the central region of the lung, where inhaled smoke first enters. But subsequent findings indicate that most cases of the disease originate deeper in the lung, where concentration of smoke is much less. (Note: the lung has a surface roughly the size of a tennis court.)
4. Much has been made of autopsy reports claiming to show "pre-cancerous" changes in the lungs and windpipes of smokers.

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Yet, these same changes have been found in non-smokers, are located at places where cancers are less frequent, and have not been shown to lead to cancer in any event.

OTHER POSSIBLE CAUSES

The critical eye, viewing the flagrant inconsistencies in the case against smoking, is forced to search elsewhere for answers.

Many scientists suggest, for example, that cigarette smoking and diseases may have common causes--factors that predispose some people to illness and also cause them to smoke. Even strong critics of tobacco admit this is a possibility.

ARE SMOKERS A "DIFFERENT BREED OF CAT"?

1. Many authorities believe that smokers differ constitutionally from non-smokers, i.e., that something other than smoking might affect their susceptibility to lung cancer and other diseases.
2. There is speculation that the high pace of living carries with it an increased desire to smoke. The "smoking type" drinks more liquor and coffee, eats more, stays up later, is more neurotic and more extroverted than the non-smoker.

Hence personality, hereditary and psychological factors may play an important role in causing both smoking and disease.

3. In this context, it is curious that the death rates of men who use tranquilizers approximate the death rates of those who smoke cigarettes.
4. In Sweden it was possible to make a study of identical twins, because the registry in that country located a number of them--only one of whom smoked. Investigation showed no difference in heart and circulatory diseases between the smoking and non-smoking twins. The chief factor here seems to be heredity.

Such findings indicate that the problem may well be the smoker himself--and not the smoking.

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The Surgeon General's Advisory Committee itself conceded that if a significant difference other than smoking could be shown between a smoker and a non-smoker, "then a possibility would exist that some predisposition of a smoker to a particular disease might also be of a constitutional origin and not caused by smoking."

HOW ABOUT AIR POLLUTION? VIRUSES? STRESS? OCCUPATIONAL HAZARDS?

Even cigarette critics readily admit that other factors may well be causes of lung cancer. This point has received short shrift in much of the research so far.

But in seeking the true cause of cancer, such areas as air pollution, viruses, stress, and occupational hazards are fertile fields.

1. A study in Liverpool, England, showed progressively more air pollution--and cases of lung cancer--toward the center of the city. Lung cancer rates, in fact, were nearly three times as high in the center of town as they were in rural areas.

An experiment in the U.S. showed that a diesel truck belches out more "cancer-producing" agents in one minute than are produced by the smoke of 350,000 cigarettes.

Another experiment showed charcoal broiled steaks contain more "cancer-producing" agents than can be found in the smoke of 600 cigarettes.

2. Outstanding scientists suggest that viruses may play an important role in causing many of the diseases that at present appear to be statistically linked with smoking.
3. A recent study showed that stress plays a more important role in heart attacks than other factors. Among doctors, for instance, busy general practitioners have more heart attacks than less-rushed dermatologists; among lawyers, trial lawyers and general practitioners have more heart attacks than patent attorneys.

Other studies show stress may be a cause of cancer and other diseases.

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4. Studies show that people in a wide variety of occupations--ranging from miners to bartenders--appear to have notably high death rates from lung cancer and other diseases.

Thus, it is impossible to conclude what--if any--role smoking plays.

What is needed is research, research--scientific research.

RESEARCH VS. PROPAGANDA

What is happening today is, to a large extent, not scientific research. It is pure propaganda.

Consider:

1. One half of all the "on-going research" in the field of smoking and health, as listed in a recent Government publication, consists of:
 - a. Educational programs.
 - b. Anti-cigarette campaigns.
 - c. "Behavioral studies" designed to find how to persuade people not to smoke.

Clearly, this is not pure research.

2. Some 1,300 studies mentioned by the U.S. Surgeon General in a 1966 speech--and said to "further confirm" the first report on smoking and health--included popular articles in:
 - a. Good Housekeeping
 - b. The Saturday Evening Post
 - c. Playboy (Title: "Where There's Smoke There's Ire: An Inflammatory Excursion into the Trials of Tobacco Fanciers Beset by Self-Appointed Weed Killers")

Obviously, these are not scientific studies.

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3. There is a curious pattern, moreover, to the research that has been reported. The official studies often fail to include new findings that contradict the anti-smoking thesis.
 - a. The 1967 Surgeon General's report, for instance cited two studies on twins--which were primarily heart studies--in connection with respiratory ailments. But it slighted them in a section on heart disease. Both studies argued against a causal link between smoking and heart disease.
 - b. The report also discussed four recent studies on chronic bronchitis and emphysema, but failed to mention that outstanding researchers in these fields had questioned the reliability of the statistics.
 - c. Government reports have so far overlooked many conflicting studies done in the U.S. and elsewhere around the world.

Examples:

Research at Mercy Hospital in Pittsburgh showed that of 1,000 proved cases of lung cancer, nearly half (474) occurred in non-smokers.

A study based on medical examinations of the entire community of Tecumseh, Michigan, found that non-smokers, if anything, had higher "prevalence rates" of heart conditions than did cigarette smokers.

A World Health Organization study in Israel showed that the "Occidental" population, which smokes less than the "Oriental" population, had higher death rates from lung cancer.

The same World Health Organization study also showed that Yemenite Jews have significantly lower lung cancer and heart disease rates, even though they smoke more cigarettes than the rest of the Israeli population.

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A West German lung cancer analysis, which included 26,000 autopsy records (dating back to 1900) and 1,229 current cases, found no statistical evidence that cigarette smoking was a cause of the disease.

These examples are not uncommon.

We could go on for pages.

Instead, let's take a look at two cases in point.

PLAYING THE "NUMBERS" GAME

1. In 1964, the Surgeon General's Advisory Committee, despite all its allegations in the field of smoking and health, said that the number of "excess deaths" attributed to smoking could not be "accurately estimated."
2. Soon thereafter, former tobacco advertising executive Emerson Foote, who was head of the National Interagency Council on Smoking and Health (an anti-smoking group), blasted cigarettes for causing "125,000 to 300,000 excess deaths a year."

So far as anyone can discover, the figures originated entirely in the mind of Emerson Foote. They have not been found in the literature on the subject.

(Note: Statistician Joseph Berkson had previously used a figure of 250,000 deaths--from all causes--to point out how silly it was to try to put the blame on smoking.)

3. Cigarette critic Daniel Horn of the National Clearinghouse for Smoking and Health (an anti-smoking wing of the U.S. Public Health Service) said smoking was responsible for "at least 125,000 premature deaths" a year.

His source, he said, was Emerson Foote.

4. Subsequently, in hearings before Congress, Emerson Foote was asked where he got his figures. Foote said he got them from the Public Health Service.

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5. At the same hearing, Daniel Horn was asked for a break-down.
 - a. He added up 138,000 deaths--33,500 from lung cancer, 80,000 from coronary disease, 16,500 from bronchitis and emphysema, and 8,000 from cancer of the oral cavity, esophagus, larynx and bladder.
 - b. He said that this total was "a little higher than the original estimate of 125,000."
 - c. Curiously, however, Horn used a host of diseases which the Surgeon General's 1964 report had not said were caused by smoking.
6. Former Surgeon General Terry, in a speech before the National Tuberculosis Association, explained the 300,000 figure.
 - a. He took Horn's unsupported explanation of 138,000 deaths.
 - b. He added in another 102,000 deaths "from diseases where the relationship to cigarette smoking, while not obvious, is nevertheless clearly indicated."
 - c. He tacked on "a reasonable estimate" of 60,000 excess deaths for women.
7. By this time, the 300,000 figure was being quoted in periodicals including The New York Times, by the Surgeon General, and by other anti-cigarette crusaders such as Senator Robert Kennedy.

Thus the widely-publicized number of so-called "excess deaths" due to smoking is based on guesses and off the cuff estimates.

It bears little resemblance to fact.

TURNING TEENAGERS INTO DIAGNOSTICIANS

Anti-smoking forces have made much of the 1967 Public Health Service report on health characteristics.

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Yet the results--and the way they were gathered--are highly suspect.

1. Data on 60 per cent of the men who had ever smoked (that's three out of every five) were gathered from other people. The interviewers simply took their answers from anyone who happened to be home.
2. Some 42,000 households were polled, but not a single doctor's diagnosis was contained in the report.
3. The person contacted--anyone nineteen years or older would do--answered questions about himself, herself and absent members of the family.
4. The person interviewed was asked about the smoking history of family members, was quizzed on a wide range of illnesses including bronchitis and sinusitis, heart and liver trouble, asthma and hay fever and even varicose veins.
5. Few people could answer all these questions about their own health. But in this survey, housewives and teenagers were cast in the role of diagnosticians and clinicians.
6. These second-hand readings then were given the weight of detailed laboratory findings, down to two decimal points.

Note:

Sir Josiah Stamp, the noted statistician, once underscored the basic limitations on such work when he said governments are "very keen on amassing statistics. They collect them, raise them to the nth power, take the cube root and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first instance from the village watchman who just puts down what he damn pleases."

Inevitably, the Public Health Service report turned up many conflicting results.

Those that differed with the smoking-health premise were shown in tables but ignored or glossed over in the body of the report.

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Examples:

1. The incidence of chronic conditions in women was smaller for smokers than for non-smokers.
2. In the incidence of chronic conditions among men, there was little or no difference whether the men smoked or not.
3. Men who smoked showed a lower incidence of upper respiratory conditions than those who did not smoke.
4. One-pack-a-day smokers were found to spend fewer days ill in bed than people who never smoked.

Obviously, this government study had tremendous limitations.

Yet it was widely publicized as "new evidence" in the case against cigarettes.

Magazines and newspapers featured the story, as The New York Times did, under headlines like: "Smoking is Linked to Loss of Time from Work and Recreation." (The Times, though, did mention the disclaimer in the report that the data did not prove smoking was the cause of the higher illness rates it found among smokers.)

Senator Robert Kennedy read the Times story into the Congressional Record, praised the work as "an ambitious empirical study of the higher incidence of disease and death ((nowhere mentioned in the report)) among smokers."

Small wonder, then, that we say the cigarette controversy is based on propaganda.

Barron's, the prestigious national business and financial weekly, said:

"'Oh what a tangled web we weave, when first we practice to deceive.'

"From the outset, as a few bold scientific spirits insisted, ((The Surgeon General's Report)) failed to prove that cigarettes cause lung cancer or any other of the many ills to which the flesh is heir. With the passage of time, its findings have grown increasingly suspect."

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A widely read syndicated columnist was even more blunt about the Public Health Service report. It was, he said, "a fraud."

The question of smoking and health is still an open one.

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